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## RAW SEQUENCE LISTING

DATE: 09/01/2004

PATENT APPLICATION: US/10/808,538

TIME: 12:49:02

Input Set : N:\Crf3\RULE60\10808538.raw

Output Set: N:\CRF4\09012004\J808538.raw

## SEQUENCE LISTING

## 3 (1) GENERAL INFORMATION:

- > 6 (i) APPLICANT: Immunomedics, Inc.
- > 13 (ii) TITLE OF INVENTION: HUMANIZATION OF AN ANTI-CARCINOEMBRYONIC  
14 ANTIGEN ANTI-IDIOTYPE ANTIBODY AND USE AS A TUMOR VACCINE  
15 AND FOR TARGETING APPLICATIONS
- 17 (iii) NUMBER OF SEQUENCES: 45
- > 7 (B) STREET: 300 American Road
- 8 (C) CITY: Morris Plains
- 9 (D) STATE: New Jersey
- 10 (E) COUNTRY: USA
- 11 (F) ZIP: 07950
- > 19 (v) COMPUTER READABLE FORM:
- 20 (A) MEDIUM TYPE: Floppy disk
- 21 (B) COMPUTER: IBM PC compatible
- 22 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- 23 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- 25 (vi) CURRENT APPLICATION DATA:
- > 26 (A) APPLICATION NUMBER: US/10/808,538
- > 27 (B) FILING DATE: 25-Mar-2004
- 29 (vii) PRIOR APPLICATION DATA:
- > 30 (A) APPLICATION NUMBER: US/09/155,106
- 31 (B) FILING DATE: 17-NOV-1998
- > 33 (A) APPLICATION NUMBER: PCT/US97/04696
- 34 (B) FILING DATE: 19-MAR-1997
- > 36 (A) APPLICATION NUMBER: US 60/013,708
- 37 (B) FILING DATE: 20-MAR-1996
- 39 (2) INFORMATION FOR SEQ ID NO: 1:
- 41 (i) SEQUENCE CHARACTERISTICS:
- 42 (A) LENGTH: 5 amino acids
- 43 (B) TYPE: amino acid
- 44 (C) STRANDEDNESS:
- 45 (D) TOPOLOGY: linear
- 47 (ii) MOLECULE TYPE: peptide
- 52 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
- 54 Asn Tyr Trp Met Thr
- 55 1 5
- 57 (2) INFORMATION FOR SEQ ID NO: 2:
- 59 (i) SEQUENCE CHARACTERISTICS:
- 60 (A) LENGTH: 16 amino acids
- 61 (B) TYPE: amino acid
- 62 (C) STRANDEDNESS:
- 63 (D) TOPOLOGY: linear

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65 (ii) MOLECULE TYPE: peptide  
70 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  
72 Ser Ile Thr Ser Thr Gly Gly Thr Tyr His Ala Glu Ser Val Lys Gly  
73 1 5 10 15  
76 (2) INFORMATION FOR SEQ ID NO: 3:  
78 (i) SEQUENCE CHARACTERISTICS:  
79 (A) LENGTH: 13 amino acids  
80 (B) TYPE: amino acid  
81 (C) STRANDEDNESS:  
82 (D) TOPOLOGY: linear  
84 (ii) MOLECULE TYPE: peptide  
89 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:  
91 Asp Asp Tyr Gly Gly Gln Ser Thr Tyr Val Met Asp Ala  
92 1 5 10  
94 (2) INFORMATION FOR SEQ ID NO: 4:  
96 (i) SEQUENCE CHARACTERISTICS:  
97 (A) LENGTH: 11 amino acids  
98 (B) TYPE: amino acid  
99 (C) STRANDEDNESS:  
100 (D) TOPOLOGY: linear  
102 (ii) MOLECULE TYPE: peptide  
107 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:  
109 Arg Ala Ser Gln Asp Ile Gly Asn Tyr Leu Arg  
110 1 5 10  
112 (2) INFORMATION FOR SEQ ID NO: 5:  
114 (i) SEQUENCE CHARACTERISTICS:  
115 (A) LENGTH: 7 amino acids  
116 (B) TYPE: amino acid  
117 (C) STRANDEDNESS:  
118 (D) TOPOLOGY: linear  
120 (ii) MOLECULE TYPE: peptide  
125 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:  
127 Gly Ala Thr Asn Leu Ala Ala  
128 1 5  
130 (2) INFORMATION FOR SEQ ID NO: 6:  
132 (i) SEQUENCE CHARACTERISTICS:  
133 (A) LENGTH: 9 amino acids  
134 (B) TYPE: amino acid  
135 (C) STRANDEDNESS:  
136 (D) TOPOLOGY: linear  
138 (ii) MOLECULE TYPE: peptide  
143 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:  
145 Leu His His Ser Glu Tyr Pro Tyr Thr  
146 1 5  
148 (2) INFORMATION FOR SEQ ID NO: 7:  
150 (i) SEQUENCE CHARACTERISTICS:  
151 (A) LENGTH: 22 base pairs  
152 (B) TYPE: nucleic acid  
153 (C) STRANDEDNESS: single

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154         (D) TOPOLOGY: linear
156     (ii) MOLECULE TYPE: other nucleic acid
157         (A) DESCRIPTION: /desc = "primer"
162     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
164 GACGTATACC TGTGGTTTTTTC TG                                     22
166 (2) INFORMATION FOR SEQ ID NO: 8:
168     (i) SEQUENCE CHARACTERISTICS:
169         (A) LENGTH: 22 base pairs
170         (B) TYPE: nucleic acid
171         (C) STRANDEDNESS: single
172         (D) TOPOLOGY: linear
174     (ii) MOLECULE TYPE: other nucleic acid
175         (A) DESCRIPTION: /desc = "primer"
180     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
182 AGGTSMARCT GCAGSAGTCW GG                                     22
184 (2) INFORMATION FOR SEQ ID NO: 9:
186     (i) SEQUENCE CHARACTERISTICS:
187         (A) LENGTH: 32 base pairs
188         (B) TYPE: nucleic acid
189         (C) STRANDEDNESS: single
190         (D) TOPOLOGY: linear
192     (ii) MOLECULE TYPE: other nucleic acid
193         (A) DESCRIPTION: /desc = "primer"
198     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
200 TGAGGAGACG GTGACCGTGG TCCCTTGGCC CC                             32
202 (2) INFORMATION FOR SEQ ID NO: 10:
204     (i) SEQUENCE CHARACTERISTICS:
205         (A) LENGTH: 20 base pairs
206         (B) TYPE: nucleic acid
207         (C) STRANDEDNESS: single
208         (D) TOPOLOGY: linear
210     (ii) MOLECULE TYPE: other nucleic acid
211         (A) DESCRIPTION: /desc = "primer"
216     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
218 GGATGATGTC TTATGAACAA                                         20
220 (2) INFORMATION FOR SEQ ID NO: 11:
222     (i) SEQUENCE CHARACTERISTICS:
223         (A) LENGTH: 32 base pairs
224         (B) TYPE: nucleic acid
225         (C) STRANDEDNESS: single
226         (D) TOPOLOGY: linear
228     (ii) MOLECULE TYPE: other nucleic acid
229         (A) DESCRIPTION: /desc = "primer"
234     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
236 CCAAGTTCCGA GCTCGTGCTC ACCCAGTCTC CA                             32
238 (2) INFORMATION FOR SEQ ID NO: 12:
240     (i) SEQUENCE CHARACTERISTICS:
241         (A) LENGTH: 32 base pairs
242         (B) TYPE: nucleic acid

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243      (C) STRANDEDNESS: single
244      (D) TOPOLOGY: linear
246      (ii) MOLECULE TYPE: other nucleic acid
247      (A) DESCRIPTION: /desc = "primer"
252      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
254 CCAGTTCCGA GCTCCAGATG ACCCAGTCTC CA 32
256 (2) INFORMATION FOR SEQ ID NO: 13:
258      (i) SEQUENCE CHARACTERISTICS:
259          (A) LENGTH: 32 base pairs
260          (B) TYPE: nucleic acid
261          (C) STRANDEDNESS: single
262          (D) TOPOLOGY: linear
264      (ii) MOLECULE TYPE: other nucleic acid
265          (A) DESCRIPTION: /desc = "primer"
270      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
272 CCAGATGTGA GTCGTGATG ACCCAGACTC CA 32
274 (2) INFORMATION FOR SEQ ID NO: 14:
276      (i) SEQUENCE CHARACTERISTICS:
277          (A) LENGTH: 32 base pairs
278          (B) TYPE: nucleic acid
279          (C) STRANDEDNESS: single
280          (D) TOPOLOGY: linear
282      (ii) MOLECULE TYPE: other nucleic acid
283          (A) DESCRIPTION: /desc = "primer"
288      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:
290 CCAGATGTGA GTCGTGTCATG ACCCAGTCTC CA 32
292 (2) INFORMATION FOR SEQ ID NO: 15:
294      (i) SEQUENCE CHARACTERISTICS:
295          (A) LENGTH: 32 base pairs
296          (B) TYPE: nucleic acid
297          (C) STRANDEDNESS: single
298          (D) TOPOLOGY: linear
300      (ii) MOLECULE TYPE: other nucleic acid
301          (A) DESCRIPTION: /desc = "primer"
306      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:
308 CCAGTTCCGA GTCGTGATG ACACAGTCTC CA 32
310 (2) INFORMATION FOR SEQ ID NO: 16:
312      (i) SEQUENCE CHARACTERISTICS:
313          (A) LENGTH: 22 base pairs
314          (B) TYPE: nucleic acid
315          (C) STRANDEDNESS: single
316          (D) TOPOLOGY: linear
318      (ii) MOLECULE TYPE: other nucleic acid
319          (A) DESCRIPTION: /desc = "primer"
324      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:
326 GTTAGATCTC CAGCTTGGTC CC 22
328 (2) INFORMATION FOR SEQ ID NO: 17:
330      (i) SEQUENCE CHARACTERISTICS:
331          (A) LENGTH: 122 amino acids

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Input Set : N:\Crif3\RULE60\10808538.raw

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332 (B) TYPE: amino acid  
 333 (C) STRANDEDNESS:  
 334 (D) TOPOLOGY: linear  
 336 (ii) MOLECULE TYPE: protein  
 341 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:  
 343 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
 344 1 5 10 15  
 W--> 346 Ser Leu Arg Leu Ser Cys Ser Ser Ser Gly Phe Ile Phe Ser Xaa Xaa  
 347 20 25 30  
 349 Xaa Xaa Xaa Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val  
 350 35 40 45  
 352 Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 353 50 55 60  
 355 Xaa Xaa Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Phe  
 356 65 70 75 80  
 358 Leu Gln Met Asp Ser Leu Arg Pro Glu Asp Thr Gly Val Tyr Phe Cys  
 359 85 90 95  
 361 Ala Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Trp  
 362 100 105 110  
 364 Gly Gln Gly Thr Pro Val Thr Val Ser Ser  
 365 115 120  
 367 (2) INFORMATION FOR SEQ ID NO: 18:  
 369 (i) SEQUENCE CHARACTERISTICS:  
 370 (A) LENGTH: 122 amino acids  
 371 (B) TYPE: amino acid  
 372 (C) STRANDEDNESS:  
 373 (D) TOPOLOGY: linear  
 375 (ii) MOLECULE TYPE: protein  
 380 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:  
 382 Gln Val Gln Leu Gln Glu Ser Gly Gly Asp Leu Val Gln Pro Gly Arg  
 383 1 5 10 15  
 385 Ser Leu Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr  
 386 20 25 30  
 388 Trp Met Thr Trp Ile Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Val  
 389 35 40 45  
 391 Ala Ser Ile Thr Ser Thr Gly Gly Gly Thr Tyr His Ala Glu Ser Val  
 392 50 55 60  
 394 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Ser Thr Leu Tyr  
 395 65 70 75 80  
 397 Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Thr Tyr Tyr Cys  
 398 85 90 95  
 400 Ser Arg Asp Asp Tyr Gly Gly Gln Ser Thr Tyr Val Met Asp Ala Trp  
 401 100 105 110  
 403 Gly Gln Gly Ser Ser Val Thr Val Ser Ser  
 404 115 120  
 406 (2) INFORMATION FOR SEQ ID NO: 19:  
 408 (i) SEQUENCE CHARACTERISTICS:  
 409 (A) LENGTH: 122 amino acids  
 410 (B) TYPE: amino acid

## RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 09/01/2004

PATENT APPLICATION: US/10/808,538

TIME: 12:49:03

Input Set : N:\Crf3\RULE60\10808538.raw

Output Set: N:\CRF4\09012004\J808538.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:17; Xaa Pos.31,32,33,34,35,50,51,52,53,54,55,56,57,58,59,60,61,62,63

Seq#:17; Xaa Pos.64,65,66,99,100,101,102,103,104,105,106,107,108,109,110

Seq#:17; Xaa Pos.111

Seq#:21; Xaa Pos.24,25,26,27,28,29,30,31,32,33,34,50,51,52,53,54,55,56,89

Seq#:21; Xaa Pos.90,91,92,93,94,95,96,97

## VERIFICATION SUMMARY

DATE: 09/01/2004

PATENT APPLICATION: US/10/808,538

TIME: 12:49:03

Input Set : N:\Crf3\RULE60\10808538.raw

Output Set: N:\CRF4\09012004\J808538.raw

L:6 M:220 C: Keyword misspelled or invalid format, [(i) APPLICANT:] of (1) line corrected  
L:7 M:238 W: Alpha Fields not Ordered, Reordered [(B) STREET:] of (1)(iv)  
L:13 M:238 W: Alpha Fields not Ordered, Reordered [(ii) TITLE OF INVENTION:] of (1)  
L:19 M:220 C: Keyword misspelled or invalid format, [(v) COMPUTER READABLE FORM:]  
L:26 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]  
L:27 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]  
L:33 M:238 W: Alpha Fields not Ordered, Reordered [(A) APPLICATION NUMBER:] of (1)(vii)  
L:36 M:238 W: Alpha Fields not Ordered, Reordered [(A) APPLICATION NUMBER:] of (1)(vii)  
L:346 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:16  
M:341 Repeated in SeqNo=17  
L:502 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:16  
M:341 Repeated in SeqNo=21